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New record of *Dipseudopsis doehleri* Ulmer,1929 (Trichoptera: Dipseudopsidae) from Manipur, India

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Abstract

The present paper reports *Dipseudopsis doehleri* Ulmer, 1929 for the first time from Manipur in India with a brief description. It is one among a total 11 species of *Dipseudopsis* reported from India till date and now represents only member of the genus from Manipur.

Keywords: Afrotropical, Caddisfly, First Record, Northeast India

Introduction

The first species of genus *Dipseudopsis* was described by Walker (1852) as *Dipseudopsis capensis* from South Africa (Weaver & Malicky, 1994). At present, approximately 82 species has been reported from all over the world, most of them being confined to Afrotropical (43 species) and Oriental (41 species) regions (TWC, Morse, 2020).

The genus *Dipseudopsis* represents members of the sub order Annulipalpia which alone have siphoning mouthparts with lacinia forming a proboscis, a corresponding modification of the galea in the higher Lepidoptera. Sexual dimorphism is visible in this genus, as the males have highly contrasting colour patterns in their wings and bodies, and the females less remarkable in contrast to males. Also, males have modified mesoapical spur of the hind tibia, which is often twisted or branched. The function of the modified spur is unfamiliar, but it has been used practically for species delimitations, to the extent that normal descriptions of the male genitalia often have been absent from species descriptions. The convention of using the modified spur as the basis for species descriptions was established by Ulmer (1907).

From India, 11 species of *Dipseudopsis* has been reported so far (TWC, Morse, 2020). Most of the Indian species has been reported from eastern Indian states of Meghalaya and Assam but no records have been reported from Manipur till date. *Dipseudopsis doehleri* was described from Khasi hills (Meghalaya) (Ulmer, 1929). The present study reveals a new record of species *Dipseudopsis doehleri* Ulmer, 1929 from Zeiland Wildlife Sanctuary, Manipur. The specimens were collected as a part of Faunal Expedition to Zeiland Wildlife Sanctuary and Bunning Wildlife Sanctuary, Manipur during the month of March, 2019 by Singh and Party.

Material and Methods

The adult caddisflies were collected from Zeiland Wildlife Sanctuary, Manipur by light traps using Mercury vapour lamps from 24th March, 2019 to 7th April, 2019. The specimens were killed and preserved directly in 90% ethyl alcohol. Pertinent locality and field data were recorded and appended to the collection bottles. Morphological characters like labial palps, antennae, setal warts, tibial spurs, wing maculation and venation, and genitalic structures were examined microscopically. The photography was done under a stereoscopic zoom microscope Nikon SMZ25 with a mounted digital camera Nikon DS-Ri2 and processed with NIS-elements software and mounted onto plates in Adobe©Photoshop©10. The specimens are deposited in NZC (National Zoological Collection), Zoological survey of India, Kolkata.

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Systematic Account

Genus ***Dipseudopsis*** Walker, 1852: 91.

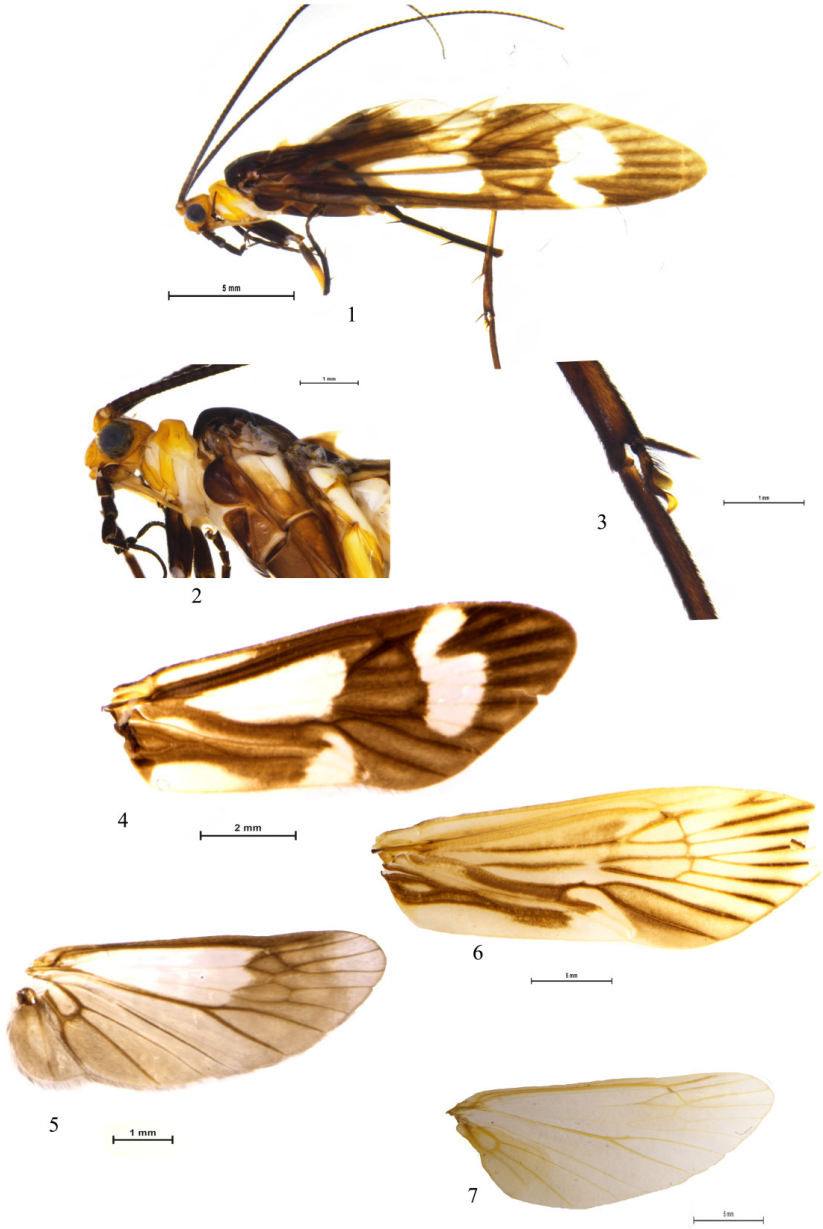
Type species: *Dipseudopsis capensis* Walker (monobasic).

Dipseudopsis doehleri Ulmer, 1929 (Figure 1-7)

1929. *Dipseudopsis doehleri* Ulmer, *Deut. Entomol. Z.*, **3**: 189-190

Material examined: India: Manipur; Down Stream Marueti River, Zeilad Wildlife Sanctuary, 24°53'44" N 93°22'54"E, 30.iii.2019, 2 males and 3 females, Singh & party (NZC).

Diagnostic Characters: Male**;** body and the appendages dark brown. Forewing length 17 mm; dark brown with distinct translucent spots: one triangular spot between R1



Figures 1-7. *Dipseudopsis doehlri* Ulmer, 1929. **1.** Habitus; **2.** Maxillary palps and Lacinia (proboscis) left lateral view; **3.** Mesoapical spur of hind tibia; **4.** Forewing dorsal (male); **5.** Hindwing dorsal (male); **6.** Forewing dorsal (female); **7.** Hindwing dorsal (female).

and Cu1, one spot at the apex of the wing with an incision at forks II and III and a spot near the cross-vein of R and Cu at the base of the wing. Beside these three distinct characteristic spots, two other spots are also present, one just beneath the subcosta and the other at the anal region Hindwing much translucent than forewing with a large triangular spot at the apical region.

The modified mesoapicalspur (Figure 3) is unbranched, slightly longer than adjacent spur, almost basal 2/3 unmodified, apical 1/3 twisted at 180° into short spiral, apical point directed mesad.

Female: Forewing light brown without any translucent spots as in males Hindwing translucent than forewing without any spots.

Distribution: India (Meghalaya, Assam, Manipur); Myanmar; Thailand.

Discussion

This species is similar to *D. nebulosa* Albarda, 1881 (in the forewings both these species have ellipsoid spot at arculus but head exclusively dark brown in *D. doehleri*) and *D. imaculata* Ulmer 1905 (both these species have similar modified mesoapical spur). This species originally described from Khasi Hills Meghalaya and later on from Myanmar (Burma) followed by reporting of this species from Thailand by subsequent workers (Weaver & Malicky, 1994). This genus is poorly documented from this region as very less collection is available in the museums. This probably maybe due to their restricted niche in particular geographic area e.g. they are not represented in the collections from the Himalayan regions.

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